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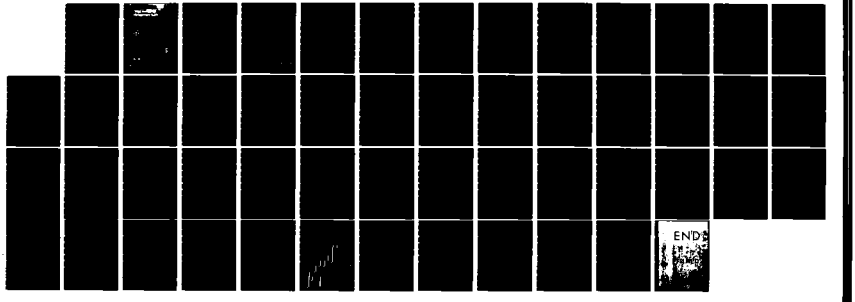

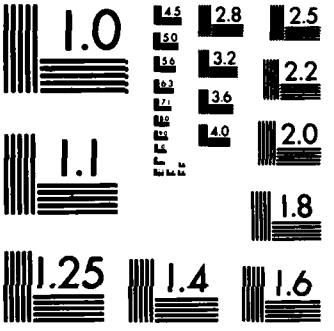

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Office Automation Management Guide

Department of Defense

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May 1983

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ARTHUR YOUNG

MDA 903-79-C-0690

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ARTHUR YOUNG

ARTHUR YOUNG & COMPANY
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WASHINGTON, D.C. 20036

June 9, 1983

Mr. Harry Pontius
Directorate for Information Resources
Management Systems
OASD(C)
Room 3A336
The Pentagon
Washington, D.C. 20301

Dear Mr. Pontius:

Arthur Young & Company is pleased to submit this document, the Office Automation Management Guide. The guide outlines planning, acquisition, implementation and post-implementation evaluation considerations for Department of Defense information managers who are responsible for establishing office automation programs. The guide is intended to assist the Department in realizing the opportunities to increase the productivity and effectiveness of professional, administrative and clerical personnel that are presented by office automation technologies.

The Office Automation Management Guide is the final product in the series of four low cost computing documents we have prepared for the Directorate of Information Resources Management Systems. It translates insights gained from our review of technology trends, our analysis of private industry and the military departments' strategies for low cost computing, and our OSD policy and program analysis into practical advice for managers throughout the Department.

Arthur Young & Company has appreciated the opportunity to work with the Department of Defense in evaluating and responding to the impacts of low cost computing, and in developing this Office Automation Management Guide. If you have questions about this document or need additional information, please contact Ms. Loretta Auer or me at (202) 828-7000.

Very truly yours,

ARTHUR YOUNG & COMPANY

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By: Henry J. Steininger
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Partner

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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

The Guide outlines planning, acquisition, implementation and post implementation evaluation considerations for information managers who are responsible for establishing office automation programs. This Guide was developed by Arthur Young & Company for the Information Resources Management Directorate, OASD(C).

The Guide is intended to assist the Department in realizing the opportunities to increase the productivity and effectiveness of professional, administrative, and clerical personnel that are presented by office automation technologies.

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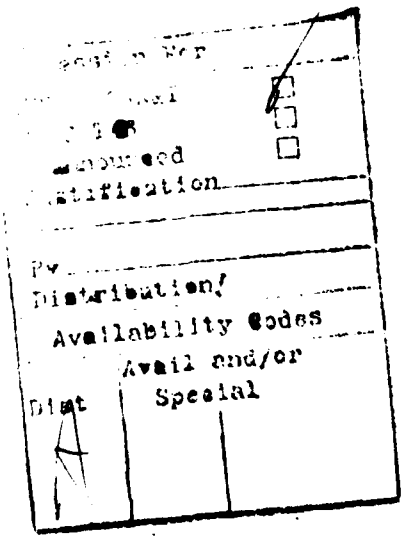

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I. INTRODUCTION

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Office automation technologies offer significant opportunities for DoD to increase the productivity and effectiveness of professional, administrative and clerical personnel. The availability of these technologies, range of capabilities, and low cost in comparison to traditional ADP technologies have encouraged DoD to maximize the use of office automation technology whenever practical.

This guide has been developed to outline planning, acquisition, implementation and post-implementation evaluation considerations for DoD information managers involved with office automation, particularly non-technical managers who are responsible for establishing office automation (OA) programs. For the purposes of this guide office automation is defined from a functional perspective as any information technology application, either intra or inter office which supports multiple functions that emphasize:

- enhancing communications of information/messages among DoD components or individuals
- providing personal services such as calendaring or decision support tools to management or professionals
- providing analytical tools (such as spreadsheets and related graphics) for managerial and professional personnel
- providing support for the creation, communication, storage, retrieval, distribution and control of office information (such as correspondence and reports).

Accordingly, an office automation design concept may incorporate traditional ADP hardware and software, telecommunications and/or more specialized office automation equipment such as word processors and micro/mini computers. An office systems design may also incorporate ancillary technologies such as reprographics (copiers and facsimile), dictation systems or optical character readers. Opportunities for consideration of these ancillary technologies in office automation design concepts will be identified using the methodologies provided in this guide. Detailed requirements analysis, justification and acquisition for these technologies should follow other DoD guidance for records management programs and non-automated office equipment acquisition.

1-1 Definition of the Technical Scope of the Guide

The management process for office automation systems includes the steps which are briefly described below:

1-1-1 Development of an Office Automation Plan

The objectives of this activity are to:

- Identify opportunities for office automation technology application and the anticipated scope and potential cost of the initiative.
- Provide a basis for selecting those office automation concepts of greatest benefit for the functional user to pursue in terms of a detailed requirements analysis study.

1-1-2 Requirements Analysis

The objectives of this task are:

- To identify the logical functional requirements for supporting an identified DoD program/mission as well as any relevant human factors, procedural or organizational considerations.
- Develop system designs which incorporate hardware/software technologies which are responsive to identified functional requirements and other management considerations
- Analyze designs for their functional feasibility
- Select a representative office automation equipment and software configuration and perform cost and benefits analysis.

The requirements analysis process results in a justification for system acquisition and equipment and software specifications.

1-1-3 Implementation Planning

The objectives of this task are to:

- Plan for office automation implementation to allow for proper resource and workload scheduling.
- Execute the implementation plan.

This task concludes with the completion of system installation and all attendant documentation and training.

1-1-4 Post-Implementation Evaluation

The objectives of this task are to review installed office automation systems to:

- Ensure the systems are meeting previously established mandatory functional and performance requirements
- Identify problems for resolution
- Identify additional, previously unquantified system benefits.

Performance of this activity confirms that office automation resources are being applied in a cost-effec' 've manner and identifies, if appropriate, areas for impro- ment or additional improvement opportunity.

The remaining chapters of this handbook pro e practical guidance for DoD functional managers in performi ,e office automation management processes described above. ue processes described should be tailored to the value and complexity of the proposed application.

II. DESIGN CONCEPT PLANNING

II. DESIGN CONCEPT PLANNING

This chapter provides a framework for development of office automation plans by DoD functional managers.

2-1 General Guidelines

Planning is essential for the effective acquisition and use of office automation technology. General guidelines regarding office automation planning focus on the following:

- Use of a planning process which is integrated within the annual information technology planning process of each component.
- Planning procedures to assure implementation of the following:
  - Introduction of office automation technology in a manner which is consistent with development of existing and future standard mission oriented systems.
  - Use of competitive practices for acquisition.
  - Coordination of hardware and software acquisition strategies to achieve the most economic procurement rates and assure the highest practical level of system standardization and data compatibility.

2-2 Application and scope

Each functional unit that uses or contemplates using office automation resources should prepare annual office automation plans for submission under their respective information technology planning process.

2-3 Office Automation Plan Content and Organization

Functional unit office automation plans should consist of an Overview and, as appropriate, a Concept Study section for individual requirements initiatives. The information to be provided in each of these sections is described and formatted in Attachments A and B to this chapter.

2-3-1 An OVERVIEW (see Attachment A) should be prepared by each functional unit. The purpose of this document is to identify the goals, management issues, recent accomplishments and office resource and related funding requirements for office automation technologies. The length of the OVERVIEW will vary according to the functional unit's preferences and the extent of its plans for exploring and applying office automation resources to identified needs.

2-3-2 A CONCEPT STUDY (see Attachment B) is required for each program need or opportunity which is likely to lead to a requirements analysis study and potential acquisition of office automation resources. The level at which concepts are identified is a decision to be made in accordance with the requirements of the information technology planning process of the component, to best fit the organizational, programmatic and overall planning structure.

The purpose of the CONCEPT STUDY is to identify and focus early attention on the programmatic requirements and opportunities which may lend themselves to the application of automated techniques. This recognizes that the requirements may not have been fully explored and therefore specific solutions may not have been identified. A CONCEPT study will be expanded upon in future submissions as the concept is developed, i.e., alternatives are refined or eliminated and costs, benefits and schedules are solidified. The CONCEPT STUDY should continue to be developed and reported in the plan until such time as it is fully implemented or until it is decided that the concept will not require application of office automation technologies. Thus, annual plans should identify concepts which are expected to be developed (through subsequent requirements studies and implementation initiatives) in subsequent years.

Follow-up requirements documentation should contain: a description of the problem to be solved and the functions to be supported; a description of the specific office automation solution and how it will solve the problem; a summary of the benefits of this approach to solving the problem (both quantifiable and intangible benefits); an identification of the initial and recurring costs and the funds to be used; and an implementation schedule for major events necessary to achieve this capability. Chapter 3 of this handbook provides procedural guidance for performing more detailed requirements analysis studies in support of concept level plans.

2-4 Roles and Responsibilities for the Planning Process

DoD functional units should establish their own internal policies, procedures and processes for collecting, preparing and approving the plan information.

Some recommended procedures for planning are summarized in a Planning Checklist presented in Attachment C. These procedures are intended as guidelines and should be modified in accordance with each Component's information technology planning process.

SUGGESTED FORMAT FOR OFFICE AUTOMATION PLAN OVERVIEW

A. Introduction - A brief statement of the functional unit's mission and the role of the office automation resources in support of the mission.

B. Office Automation Goals - A list and brief description of office automation goals. Such goals must be identified either as continuing, or be identified by fiscal year in which they are expected to be attained.

C. Office Automation Management Issues - A listing and description of the office automation management policies and objectives which are to be emphasized or pursued during the upcoming year.

D. Prior Year's Performance - A summary of the prior year's office automation accomplishments in terms of the major achievements and objectives attained versus those that were planned.

E. Assumptions - A listing and description of the key assumptions upon which the plan is based. These may relate to programmatic needs, budget or personnel ceilings, legislative or organizational factors, technology assessments, etc.

F. Office Automation Environment Changes - A statement of the significant changes proposed to office automation goals, priorities or policies since the last plan was prepared. This statement will not only describe those changes resulting from within the functional unit, but will also reflect changes influenced by external factors, such as Department, Federal or legislative directions.

G. Plan Highlights - A statement of the major aspects (concepts, acquisitions, staffing, funding, etc.) of the plan and a description of the key decisions necessary for implementation.

H. Financial Summary - A tabular presentation of the anticipated funding requirements for office automation resources to support: (1) each concept; (2) the cumulative total of all concepts; (3) current office automation activities which will be continuing; and (4) total organization office automation resources.

SUGGESTED FORMAT FOR OFFICE AUTOMATION PLAN CONCEPT STUDY

Concept Title:
Concept Number:

A. Introduction - A brief statement of the relationship and general impact of the concept on the functional unit's mission.

B. Purpose - A concise statement of the specific purpose to be served, described in terms of the activities and functions needed to be accomplished, rather than the characteristics of specific resources.

C. Capability - An identification of existing capabilities for concept implementation and any known deficiencies and/or opportunities for improved effectiveness or cost savings.

D. Other Components Involved - An identification of the other components involved in implementing the concept.

E. Alternatives - An identification of the available concept implementation alternatives which have been or are to be explored, how they might be implemented and what shortcomings each alternative may present. In the early stages of concept formulation the identification of alternatives would be at a broad level, such as employing a manual versus an automated system. In the later and final stages, the alternatives would be more specific.

F. Financial Summary - An estimate of the level and form of office automation resource obligations considered necessary for full concept implementation and operation in the format shown on the next page.

G. Benefits - An identification of the anticipated benefits to be realized by implementation of this concept, including tangible and intangible benefits.

H. Schedule Objectives - A schedule of the major milestones involved in the implementation of this concept.

I. Other Considerations - Any other constraints or limitations (e,g., facilities, geographical location, security, data privacy) not mentioned above which could affect the achievement of the concept purpose.

SUGGESTED FORMAT FOR OFFICE AUTOMATION PLAN CONCEPT STUDY

Concept Title:
Concept Number:

Concept Financial Summary
(In $000's)

Resource Category	FISCAL YEAR "_____"
1. Capital Investments	
2. Personnel	
3. Equipment Rental	
4. Space and Other Operating Costs	
5. Commercial Services	
6. Interagency Services	
7. Intra-agency Services	
8. Other Services	
Total Obligations	

OFFICE AUTOMATION PLANNING CHECKLIST

1. Establish Office Automation Goals and Objectives

- Review the overall functional unit goals for office automation
- Review mission
- Establish the role of office automation resources in support of the mission
- Which office automation goals best fill that role?
  - improved productivity
  - direct cost savings
  - increased capacity
  - improved service.
- Identify which goals relate to a specific fiscal year and which are continuing.
- Prepare a list and brief description of office automation goals for inclusion in the plan OVERVIEW (See Attachment A).

2. Identify Relevant Management Issues

- Which management issues will impact or be impacted by office automation resources and office automation goals
  - integration of ADP, telecommunication and office automation
  - organization and personnel issues such as reporting relationships, position responsibilities, staffing levels
  - skill requirements and training
  - management reporting
  - implementation requirements, etc.
- Determine office automation management goals and objectives which address those issues
- Determine which of those objectives are to be emphasized during the upcoming year.

OFFICE AUTOMATION PLANNING CHECKLIST
(continued)

- Compare the objectives for consistency with:
  - DoD office automation management strategy
  - Secretary's objectives
  - Functional unit objectives
- Prepare a listing and description of the office automation management policies and objectives as required for inclusion in the plan OVERVIEW (Attachment A).

3. Analyze Prior Year's Performance

- Review major goals and objectives submitted in prior year's plan
  - What were the major objectives?
  - What were the time frames for accomplishing objectives?
- Compare actual achievements with planned accomplishments.
  - Were the objectives achieved?
  - Did the activities occur on schedule?
- In view of prior year's performance, reassess office automation goals and objectives and adjust if necessary
- Summarize performance for inclusion in the plan OVERVIEW (Attachment A).

4. Analyze the Key Factors which Contribute to the Office Automation Plan

- What assumptions are being made about:
  - specialized needs of the various program areas
  - budget limitations
  - personnel ceilings
  - organizational factors

OFFICE AUTOMATION PLANNING CHECKLIST
(continued)

- legislation
- technology assessments?

. How do the assumptions affect the plan?

. What environmental changes are anticipated?

- external influences
  .. federal directives
  .. legislative direction
  .. department direction
- internal (component) influences
  .. changes in policy
  .. changes in priority
  .. changes in office automation goals.

. Prepare a listing and description of key assumptions and a statement of significant office automation environmental changes for inclusion in the plan OVERVIEW (Attachment A).

5. Summarize the funding requirements in a tabular fashion:

. Each proposed office automation design concept

. Cumulative total of all concepts

. Current continuing office automation activities

. Total office automation resources.

III. REQUIREMENTS ANALYSIS

III. REQUIREMENTS ANALYSIS

The purpose of this chapter is to provide an approach for performing an office automation requirements analysis study and developing a recommended system concept. The proposed methodology, which should be tailored to the scope of the study, has the following phases:

- Step 1 - Project Planning

  The background for the study and scope of effort are defined as a basis for selection of the study team and schedule and milestone planning.

- Step 2 - Current System Evaluation

  Through interviews and other data collection activities, the current system is documented in terms of organization, resource expenditures, key process flows, workload characteristics and performance goals. Operations are compared to performance goals and opportunities for improvement are identified. These opportunities become the functional requirements to be met by the new system.

- Step 3 - Development of a System Design Concept

  Each key process is evaluated in terms of the organizational, procedural and/or technological approaches to realizing identified improvement opportunities. New process flows which incorporate changes are prepared and evaluated for their feasibility. A recommended design concept for each key process is prepared in terms of its organizational, procedural, and technological aspects.

- Step 4 - Evaluation of Office Automation Options

  Selection criteria are developed to form the mandatory requirements for new system performance. Minimal configuration assumptions are also developed based on the recommended system design concept. Generic hardware configurations are then developed and evaluated for functional feasibility and overall cost. The generic configuration of best value to the Government (in terms of advantages and cost) is then further developed; first in terms of software recommendations and then the hardware configuration which is suitable for supporting identified software.

- Step 5 - Cost and Benefits Analysis

  The specific software and hardware configuration is analyzed in terms of life cycle cost and compared to the

current system. Tangible and intangible benefits are assessed. A specific recommendation on system justification is then prepared.

- Step 6 - Implementation Planning

  An implementation plan for the recommended system including schedule and milestones is prepared. Topics addressed include: implementation activities, schedule, milestones, training, resource requirements, time phasing and cost.

- Step 7 - Requirements Analysis Report

  The results of the requirements analysis study, system recommendations and implementation plan are documented in the form of a report and presented to DoD management for system approval.

Each of these steps in the requirements analysis process is further described in the sections which follow. It should be noted that the office system design concept developed for a DoD unit may include ancillary technologies such as dictation systems, facsimile, telephone systems, micrographics, reprographics and photocomposition devices. The justification requirements for each of these types of equipment and related acquisition processes are different from those indicated in this guide since these types of office system components are procured as office equipment and may, as in the case of photocomposition devices and reprographics, come under the review of the Joint Committee on Printing (JCP). Accordingly, while these technologies may be identified as components of an overall office system concept, their requirements justification and acquisition should be pursued using guidance which is not presented in this Office Automation Management Guide.

3-1 STEP 1 - PROJECT PLANNING

The project planning step provides an opportunity for scoping the extent of the requirements analysis effort to the staff resources available to perform the study and greatest areas of opportunity.

Project planning activities include the following:

- Identify the background for the study:
  - what is perceived as being needed, wanted or improved?
  - tangible objectives which can be measured to determine project success such as increased productivity and/or reduced cost.
  - expected benefits.

- Identify project scope:
  - key processes to be reviewed
  - organizations to participate in the study
  - time constraints
- Initiate the project:
  - select a project team and orient them on their roles and responsibilities
  - establish feedback mechanisms for project time and cost control
  - set goals and milestones within a defined time schedule
  - define cost constraints
  - develop data collection methodology and tools
  - identify interview contacts and make appointments
  - prepare a final project work plan and obtain component management's approval.
- Provide Organizational Notification of the Study:
  - conduct orientation meetings with study participants to inform them of study purpose and their participation requirements
  - Using a memorandum notify other potential participants or areas to be impacted of the study purpose and time frame.
- Obtain Background Documentation on the Current Environment:
  - collect organization charts, mission statements, job descriptions and procedures for review
  - obtain copies of regulations, policies and internal directives which impact on system design
  - obtain staffing and resource expenditure summary reports.

3-2 STEP 2 - CURRENT SYSTEM EVALUATION

The current system evaluation provides a basis for identifying

the requirements for office automation support as well as the environmental and operational constraints in which an office automation system must operate.

Current system evaluation activities include the following.

- Review current system documentation obtained in Step 1 and identify key processes and issues
  - conduct interviews
    - •• define process flows
    - •• obtain workload characteristics
    - •• set process priorities
    - •• identify performance goals
    - •• identify problems and opportunities
  - conduct interviews with selected professionals and staff to:
    - •• confirm process and workload profiles
    - •• obtain resource expenditure details (staff and facilities)
    - •• observe process flows and facilities use
    - •• identify problems and opportunities
  - document the current system in terms of
    - •• organization
    - •• procedures (flowcharts)
    - •• workload (key process profiles)
    - •• interfaces
    - •• cost
    - •• resource/facilities utilization
    - •• performance goals
    - •• problems
  - compare the current system to performance goals and identify opportunities for improvement

- state opportunities as system requirements
- review requirements with functional user management.

3-3 STEP 3 - DEVELOPMENT OF A SYSTEM DESIGN CONCEPT

The system design concept represents an organizational, procedural and technological framework for meeting performance goals. System design activities include the following:

- Evaluate each opportunity for improvement in terms of improvement type:
  - organizational
  - procedural
  - technological
  - combination.
- Prepare new process flows (flowchart form) indicating where and what type of improvements are indicated.
- Evaluate system designs for their feasibility in concept:
  - responsiveness to mandatory requirements
  - ability to operate within pre-defined constraints
  - flexibility for future change.
- Prepare a recommended system design concept for each key process
- Review system design recommendations with functional user management.

3-4 STEP 4 - EVALUATION OF OFFICE AUTOMATION OPTIONS

This step results in the development of a specific software and hardware architecture for the office automation system. Alternatives evaluation activities include the following:

- Establish selection criteria for the system. These are based on mandatory requirements
- Define minimum configuration assumptions:
  - software applications
  - hardware (input and output devices)
  - communications capabilities.

- Define generic system architecture approaches such as:
  - single technology (mainframe, minicomputer or microcomputer based system)
  - time-sharing
  - distributed
  - local area network
- Identify advantages and disadvantages of each approach given user's unique requirements and operational environment
- Develop a preliminary cost estimate of the purchase price for each generic system architecture using configuration assumptions in terms of:
  - workstations
  - processing/storage capacity
  - facilities requirements dictated by technology type
  - special staff support requirements.
- Select generic system architectures of greatest benefit to Government (cost and other factors)
- Identify software alternatives within a given architecture, select packages and identify development requirements
  - applications software
  - operating system software to run selected applications
  - development language software for new applications
- Prepare additional hardware assumptions based on software selected
  - size of processor
  - number and size of disks
  - amount of memory.
- Prepare a hardware configuration
  - responsive to configuration assumptions

- responsive to software processing assumptions.

- Review the recommended system architecture with functional user management.

3-5 STEP 5 - COST AND BENEFITS ANALYSIS

This step results in a comparison of the life cycle costs of the recommended system to the current system and appropriate acquisition justification. Activities include the following:

- Determine the life cycle costs of the new system (3 to 5 year period)
  - one-time costs
    - purchase
    - conversion
    - facilities modification
    - training
    - resources
  - recurring costs
    - maintenance
    - supplies
    - resources
    - facilities
- Compare new system costs to current system costs projected over the same life cycle.

  (Exhibit III-1 provides an example of this type of comparison.)
- Compare the new system to current system in terms of benefits.
- Prepare a system recommendation and new system justification if cost-effective.
- Review system justification with functional user management.

3-6 STEP 6 - IMPLEMENTATION PLANNING

This step results in an implementation plan to guide new system acquisition and installation. Activities include the following:

- Identify implementation planning requirements and constraints
- Prepare an implementation plan identifying:
  - activities
  - schedule
  - milestones
  - training needs
  - resource requirements
    - user
    - contractor
    - vendor
    - other impacted or participating components
  - estimated cost.
- Review implementation plans with functional user management.

3-7 STEP 7 - REQUIREMENTS ANALYSIS REPORT

This step results in the final documentation of the requirements analysis study.

- Assemble study documentation and prepare narrative summary of results:
  - background and objectives
  - functional requirements
  - recommended system design concept
  - evaluation of office automation options
  - cost and benefits analysis
  - implementation plan.
- Review requirements analysis report and recommendations with functional user management.

SYSTEM LIFE CYCLE COST

	YEARS AFTER SYSTEM ACQUISITION		
	1	2	3
PURCHASE	$ 63,089		
CABLING	4,000		
IMPLEMENTATION			
• COMPONENT (with 40% overhead)	31,600		
• CONTRACTOR	19,600		
OPERATION (Difference in Cost over Current System)	- 60,266 (Staff) -120,000 (Other Resources)	- 60,266 -120,000	- 60,266 -120,000
SUPPLIES	4,300	4,300	4,300
MAINTENANCE	1,500	1,500	1,500
TOTAL	- 56,177	-174,466	-174,466
3 YEAR LIFE CYCLE COST WHEN COMPARED TO CURRENT SYSTEM		- $405,109	
SAVINGS		+ $405,109	

IV. ACQUISITION

IV. ACQUISITION

This chapter presents guidelines on the acquisition of office automation technologies. It has been designed to familiarize DoD functional users with the GSA procurement policies for ADP technologies of which office automation technologies are a subset. FPR Chapter 1 Subpart 1-4. 1100 policies and procedures, is to be employed in the procurement of all automatic data processing equipment (ADPE), commercially available software, maintenance services, and related supplies by Federal agencies or their contractors regardless of use or application including government-acquired ADPE, software, or related supplies provided to contractors.

4-1 Applicability

Per GSA, ADPE means general purpose, commercially available, mass produced automatic data processing devices. This definition includes components and the equipment systems configured from them together with commercially available software packages that are provided and are not priced separately. It also includes all documentation and manuals relating thereto. Specifically included in GSA's definition are:

- Digital, analog, or hybrid computers
- Auxiliary or accessorial equipment, such as plotters, tape cleaners, tape testers, data conversion equipment, source data automation recording equipment (optical character recognition devices, paper tape typewriters, magnetic tape, card, or cartridge typewriters, word processing equipment, computer input/output microfilm and other data acquisition devices), or computer performance evaluation equipment, etc., designed for use with digital, analog, or hybrid computer equipment, either cable connected, wire connected, or stand alone, and whether selected or acquired with a computer or separately
- Punched card accounting machines (PCAM) that can be used in conjunction with or independently of digital, analog, or hybrid computers
- Data transmission or communications equipment, including front-end processors, terminals, sensors, and other similar devices, designed primarily for use with a configuration of ADPE

ADP technologies which are excluded from the GSA policies discussed in this chapter are:

- ADPE systems and components specifically designed (as opposed to configured) and produced to perform a specific set or series of computational data

manipulation, or control functions to permit the process of only one problem; and

- Commercially available ADPE that is modified to meet Government specifications at the time of production to the extent that:

  - it no longer has commercial market; or
  - it cannot be used to process a variety of problems or applications; or
  - it can be used only as an integral part of a non-ADP system.

4-2 General GSA Policies

The following GSA policies contained in FPR Chapter 1, Subpart 1-4. 1100 pertain to the acquisition of office automation systems as a subset of GSA's definition of ADP resources. Comments/clarifications of GSA policy as they pertain to DoD office automation management procedures are presented in parentheses following policy statements.

4-2-1 Competition

Full and open competition is a basic procurement objective of the Government. The maximum practicable competition among offerors who are capable of meeting the user's needs will ensure that the Government's ADP needs are satisfied at the lowest overall cost, price and other factors considered over the system/item life. This extends to actions necessary to foster competitive conditions for subsequent procurements. To meet fully the lowest overall cost objective, it is essential that proper management and planning action to be accomplished before the acquisition becomes imminent. (These requirements are addressed by Chapter 2 and 3 of this handbook.)

4-2-2 Requirements Analysis

The acquisition of an initial ADP (including office automation technologies) capability or the augmentation or replacement of an existing capability shall be preceded by a comprehensive requirements analysis that is commensurate with the scope and complexity of the program objectives and mission needs. The operational and economic feasibility of all alternative solutions, including use of non-ADP resources, sharing, use of commercial ADP services, and reutilization, of excess Govenment-owned or leased equipment, shall be considered. (See procedures described in Chapter 3 of this handbook.)

4-2-3 Urgent Requirements

The existence of a public exigency, i.e., the Government will suffer serious injury, financial or otherwise, if the equipment or services are not available by a specific date, shall not relieve the agency from the responsibility for obtaining maximum practicable competition. (DoD office automation resources must therefore be based on a planning process supported by a cost-justified feasibility study and a competitive acquisition process.)

4-2-4 Procurement Authority:

To allow for the orderly implementation of a program for the economic and efficient procurement of ADP resources (including office automation technologies), agencies are authorized to procure these items in accordance with the GSA provisions provided that requirements are not fragmented in order to circumvent the established blanket delegation thresholds, or when a specific delegation or procurement authority has been provided.

The exercise of procurement authority shall be accomplished as specified by GSA and DoD components.

4-3 Selection Guidelines

4-3-1 Equipment:

In accordance with GSA regulations, office automation equipment can be procured in the following ways:

- By placing a purchase/delivery order against an applicable GSA requirements-type contract.
- By placing a purchase/delivery order against a GSA schedule contract provided that the following three conditions are met:
  - the order is within the maximum order limitation (MOL) of the applicable contract;
  - the total purchase price of the item(s) covered by the order does not exceed $300,000; and
  - the requirements set forth on the use of GSA schedule contracts are met.
- By normal solicitation procedures providing that the value of the procurement does not exceed:
  - $500,000 purchase price or $12,500 basic monthly rental charges for competitive procurements or

- $50,000 purchase price or $1,500 basic monthly rental charges for either sole source or specific make and model procurements.

4-3-2 Software

Except for software available through the Federal Software Exchange Center (FSEC) components may procure commercially available software without prior approval of GSA when either of the following procurement situations exists.

- The procurement is to be made by placing a purchase/delivery order against an applicable GSA requirements-type contract
- The procurement is to be made by a purchase/delivery order under the terms and conditions of an applicable GSA schedule contract
- The procurement is to be made by normal solicitation procedures and total value of the procurement, excluding maintenance, for the specific software package(s) does not exceed:
  - $100,000 for competitive procurement or
  - $50,000 for sole source procurements.
- The software is provided with and is not separately priced from the ADPE.

4-3-3 Maintenance services

Components may procure maintenance services without prior approval of GSA when either of the following applies.

- The procurement is to be made by placing a purchase/delivery order under the terms and conditions of an applicable GSA schedule contract
- The procurement is to be made by normal solicitation procedures and the value of the maintenance charges do not exceed $200,000 annually for a competitive procurement or $50,000 annually for a sole source procurement.

4-3-4 Related Supplies

Components may procure related supplies without prior approval of GSA when specific purchase programs established by GSA have been considered and determined to be inapplicable.

Figure IV-1 on the following page summarizes DoD procurement options for office automation technologies. The actual procurement process itself should be coordinated by each DoD component with their respective ADP and contracting organizations.

PROCUREMENT OPTIONS

TYPE RESOURCE	GSA REQUIREMENTS TYPE CONTRACT	GSA SCHEDULE CONTRACT	NORMAL SOLICITATION PROCEDURES
Equipment	X (Purchase or delivery order)	X (Within Maximum Order Limitations, purchase price not in excess of $300,000, GSA schedule requirements met)	X ($500,000 purchase price or $12,500 monthly rental for competitive procurement. $50,000 purchase price or $1,500 basic monthly rental charge for either sole source or specific make and model procurements.)
Software	X (Purchase or delivery order)	X	X ($100,000 for competitive procurement. (excluding maintenance) $50,000 for sole source procurement)
Maintenance Services		X	X (Maintenance charges do not exceed $200,000 annually for a competitive procurement and $50,000 annually for a sole source procurement)
Related Supplies		X	X (Only when GSA purchase programs have been considered and determined to be inapplicable)

V. IMPLEMENTATION PREPARATION

V. IMPLEMENTATION PREPARATION

5-1 PURPOSE

Successful installation of office automation systems is dependent on development and execution of an effective implementation plan. The requirements of such a plan are identified and described in this chapter.

5-2 ACTIVITIES IDENTIFICATION

5-2-1 Scheduling Delivery and Installation

DoD functional users should assure that delivery dates and installation periods for office automation systems are negotiated with the selected vendor and included in the actual procurement contract. This provides target dates around which other implementation activities can be planned.

5-2-2 Organization, Environment and Procedural Changes

As a result of the prior analysis of system requirements and alternative approaches, required organizational, procedural and environment changes will be identified. Additional organizational and procedural changes may also be under consideration by the functional user and execution during a systems installation period may be opportune. Other detailed changes to environmental considerations such as physical layout, lighting or power may be further identified during the vendor evaluation/ negotiation/contracting processes.

5-2-3 Ordering Supplies

Based on previously identified workloads, initial system supply requirements such as special paper, printer ribbons, disks, etc., should be identified. Sufficient supplies should be ordered through GSA requisition processes to assure adequate availability to support data conversion and several months of operation. The actual volume of supplies ordered must also consider requisition lead times for additional supplies to avoid potential for shortage of those supplies, such as disks and printer ribbons, which are critical to system operation.

5-2-4 System Training/Documentation

During the vendor evaluation process the extensiveness of system training materials and operations documentation should be identified along with additional requirements. A key implementation planning activity,

therefore, is identifying additional training and documentation requirements and assuring that these are realized through in-house or contractor development efforts.

5-2-5 Performance/Utilization Reporting Methodologies

All office automation system contracts should include a performance period during which DoD measures and evaluates whether the equipment meets specifications and performs effectively; an implementation plan should therefore include an approach for evaluating system performance during the testing period.

5-2-6 Training

Training requirements for system operators and managers must be identified and responsibilities for accomplishment defined. An effective training plan is required to assure:

- all individuals who are to interface with the system will receive proper instruction
- actual training responsibilities (DoD, vendor, and/or contractor) are identified and appropriate documentation is developed
- timing for the training occurs in proper sequence with the actual installation of the system.

5-2-7 Conversion

To assure cost-effective system cutover and minimal impact on the continuity of program operations, conversion requirements must be identified. An effective conversion plan must address:

- type of data to be converted
- time period of conversion
- priority
- proposed method(s)
- cost/benefit analysis of alternative approaches and recommendation, if appropriate.

Responsibilities for conversion must also be identified. Where conversion is extensive and exceeds previously stated thresholds for ADP equipment/services acquisition, competitive procurement may be required.

- responsive to configuration assumptions

5-2-8 Installation and Start-Up

Each of the previously identified implementation planning activities provides input to the identification of responsibilities and timetable leading to system installation and start-up. The actual start-up period for most office automation systems ranges from several days to several weeks and will depend on the type of system to be installed.

5-3 ROLES AND RESPONSIBILITIES

Figure V-1 on the following page provides an overview of suggested roles and responsibilities for the implementation activities previously identified.

5-4 SCHEDULE AND MILESTONES

5-4-1 Implementation Program Activities

The office automation implementation plan should contain a Gantt chart which depicts all identified implementation activities, time frame for accomplishment and milestones. Figure V-2 provides an example of this type of schedule.

5-4-2 Accountability

For each milestone designated in the implementation plan, an individual who is accountable for accomplishments should be designated. All assignments of accountability should be approved by the implementing user's management.

5-4-3 Reporting Procedures

Accomplishment of each implementation plan milestone should be documented by the assigned accountable individual and forwarded to the implementing user's management. Deviations from plan should also be documented and presented to the user organization's management for approval and problem resolution as appropriate. Actual reporting format and procedures should be determined by the implementing user organization's management.

5-5 RESOURCE ESTIMATES

The implementation plan should include estimates of the staff hours by staff level required for system implementation, conversion and operation. These estimates can initially be drawn from the feasibility analysis but must be refined based on the detailed implementation activities identified.

Resource estimates are essential to planning affected staff time during the implementation process, making staff available to participate in designated implementation and training activities, identifying in-house staff deficiencies to be supplemented by contractor resources, and assuring that proper staff are available to operate the system after it is installed.

5-6 TRAINING REQUIREMENTS

Training requirements must be assessed for:

- functional user management (who will manage the office automation resources and may, in fact, access decision support tools)
- functional user staff (who will operate the system and perform simple maintenance)
- other organizational units (who must be instructed in their roles with regard to system inputs and/or outputs and have a basic familiarity with the types of information resources available through the system).

Training requirements can then be matched to the vendor's training proposal and deficiencies identified. Plans can then be established to meet training requirements through enhanced vendor support, use of an outside contractor (which may have to be competed depending on the extent of the required training), or in-house training.

5-7 ENVIRONMENTAL CHANGES

During the system selection process, special environmental changes will have been identified. It is important to note the range of these changes and schedule building construction services so that any change precedes actual equipment installation. Typical environmental changes include:

- installation of special electrical/power requirements (including cabling)
- temperature/humidity controls
- static controls
- space
- noise proofing
- security (such as a locked room or fire protection)
- lighting and color for such ergonomic reasons as to ease operator fatigue.

One of the major advantages of office automation systems is that aside from networking requirements most other environmental changes required are minimal.

5-8 CONVERSION PLANNING

5-8-1 Conversion to a new office automation system can involve:

- initial loading of information from hardcopy files
- down loading of data from other computers
- conversion of data from one office automation system to the new system.

5-8-2 For each type of information to be converted for use in the new system the following types of information should be developed:

- characteristics of the information to be converted such as: type, volume, special requirements (sequencing, etc.), current format, time period covered, and statutory requirements
- rationale for conversion such as: potential for information access or statutory requirements.

5-8-3 Where appropriate, alternative conversion approaches should be compared. Comparisons would address such areas of concern as:

- cost
- time requirements and impact on system start-up
- resource requirements
- integrity of original data
- security considerations
- impact on operations.

Contractor and in-house accomplishment of the conversion process should also be evaluated for cost-effectiveness before a recommended approach is selected.

5-8-4 GSA requires that software conversion studies, when appropriate, shall be performed for all procurements to ensure that the users' needs are met at the lowest overall cost, price and other factors considered, including the cost and other factors associated with

conversion activities. Software conversion studies are not required for:

- initial acquisition where no software currently exists
- procurement for computer peripherals only
- exercise of a purchase option under a leasing agreement.

Studies are required when:

- the estimated purchase price of the system is over $2,500,000 excluding the maintenance or support costs
- the cost of conversion is to be used as the primary justification for a non-competitive (sole source) requirement when the estimated value of the procurement exceeds $300,000.

Contract office guidance would typically be required by functional users who were undertaking an office automation procurement large enough to meet these GSA requirements for software conversion studies.

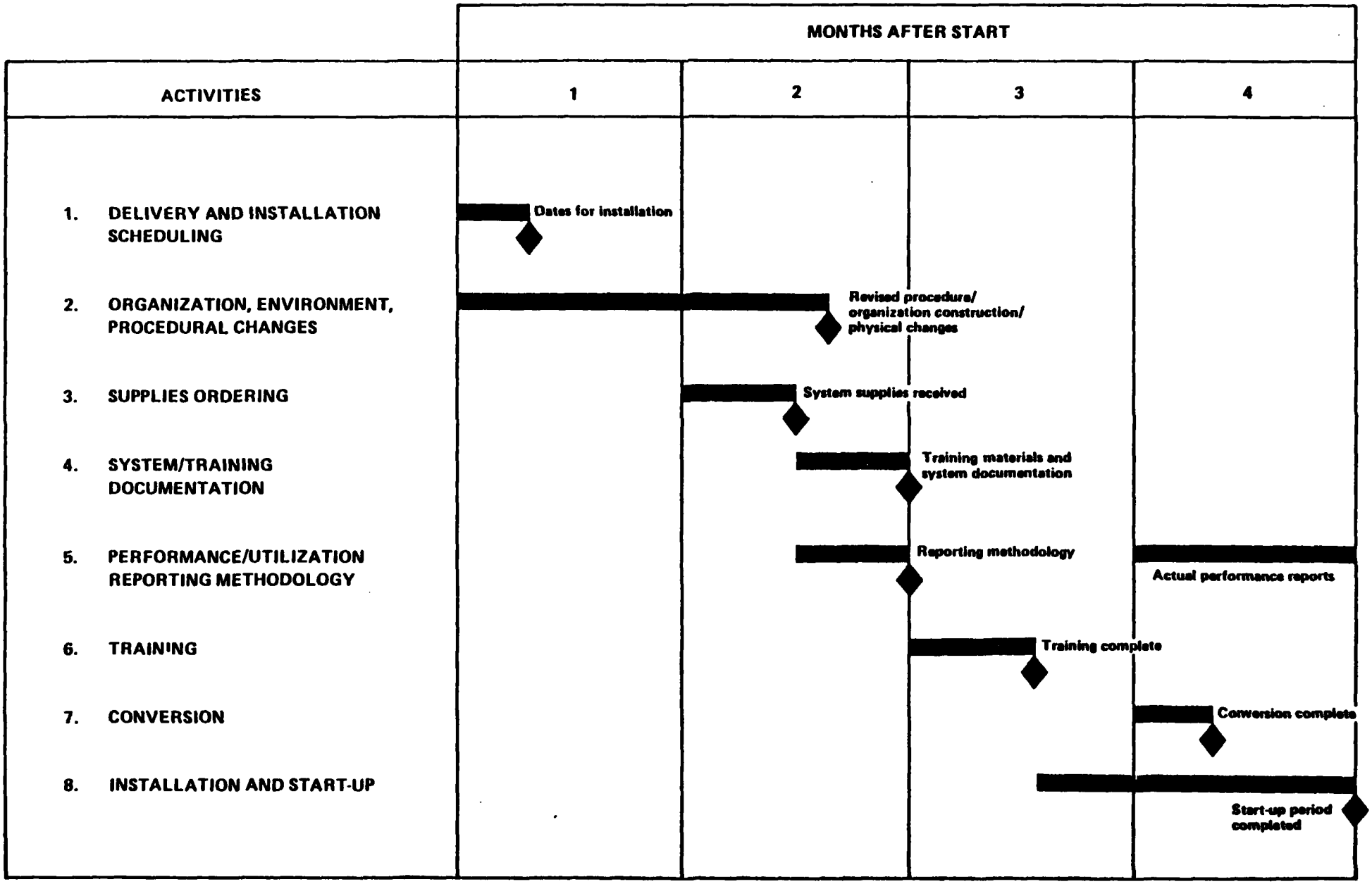
FIGURE V-1

SUGGESTED ROLES AND RESPONSIBILITIES
OFFICE AUTOMATION IMPLEMENTATION PLANNING

ACTIVITIES	ORGANIZATION	VENDOR	TECHNICAL ASSISTANCE PERSONNEL	CONTRACTS
1. SCHEDULING DELIVERY AND INSTALLATION	PERFORM WITH VENDOR	PERFORM WITH OPERATING UNIT	TECHNICAL ASSISTANCE	NEGOTIATE CONTRACT TERMS
2. ORGANIZATION, ENVIRONMENT, PROCEDURAL CHANGES	PERFORM	PROVIDE ENVIRONMENTAL REQUIREMENTS	TECHNICAL ASSISTANCE	COORDINATE WITH GSA
3. ORDERING SUPPLIES	PREPARE ORDER	ADVISE ON REQUIREMENTS	TECHNICAL ASSISTANCE	PROCESS ORDERS
4. SYSTEM/TRAINING DOCUMENTATION	IDENTIFY, PLANS, AND PROVIDE TRAINING	PROVIDE TRAINING	TECHNICAL ASSISTANCE	PROCESS PROCUREMENTS FOR OUTSIDE TRAINING
5. PERFORMANCE/ UTILIZATION REPORTING METHODOLOGY	ESTABLISH AND MONITOR	RESOLVE IDENTIFIED PROBLEMS	TECHNICAL ASSISTANCE	RESOLVE PERFORMANCE THAT IMPACTS ON CONTRACT VIABILITY
6. TRAINING	DELIVER AND ATTEND TRAINING	DELIVER TRAINING	TECHNICAL GUIDANCE	CONTRACT FOR OUTSIDE TRAINING
7. CONVERSION	IDENTIFY, PLAN, AND PERFORM CONVERSION	PROVIDE CONVERSION SERVICES	TECHNICAL ASSISTANCE	CONTRACT FOR OUTSIDE SERVICES
8. INSTALLATION AND START-UP	ASSIST	INSTALL SYSTEM AND ASSURE OPERATION	TECHNICAL ASSISTANCE	MONITOR INSTALLATION

FIGURE V-2

SAMPLE IMPLEMENTATION SCHEDULE



VI. POST-IMPLEMENTATION EVALUATION

VI. POST-IMPLEMENTATION EVALUATION

This chapter of the guide presents an approach for performing post-implementation evaluations of office automation systems. A post-implementation evaluation provides a basis for determining if office automation resources are properly implemented and if they do conform in practice to original assessments of feasibility and cost-effectiveness. The post-implementation evaluation report resulting from these efforts, will include recommendations to management for either proceeding with ongoing operations, fine-tuning the system to achieve the desired results, or totally redesigning the system.

A secondary objective of the post-implementation evaluation is to build up a data base on the improvements realized through the application of various office systems technologies. By carefully collecting data on actual systems experience, future office automation efforts can be planned with higher confidence in the results. These results can also be shared with other DoD components who may be planning similar projects.

6-1 Establishing Evaluation and Conducting the Evaluation Plan

Post-implementation evaluations should be planned and conducted in accordance with the following guidelines:

- The activities required in the review should be identified at the outset. The nature and extent of these activities will be dictated in part by the size, technology category and the expected benefits of the installation.

- In selecting a post-implementation review team, care should be taken to select individuals:

  - who are independent from the installation under review

  - who did not conduct the requirements assessment which led to the implementation, and

  - who have the office automation skills required to conduct the review.

  If there is a shortage of qualified staff to conduct the review, it would be acceptable to use an individual who participated in the requirements assessment or who is involved with the installation, provided the team also includes and is dominated by individuals who are independent and therefore unbiased.

- A schedule for completion of the review should be established in advance including periodic milestones for reviewing progress and presenting results. This schedule should be based on realistic estimates of time required to complete review tasks and time available from project staff.

- The criteria for making an evaluation of the success of the implementation come from the requirements assessment itself and include the following elements:

  - overall system objectives

  - statement of mandatory functional requirements

  - justification of the recommended alternative system design concept

    .. projected benefits

    .. estimated costs.

  An additional criterion is compliance with DoD and functional unit policy.

- The methodology for conducting the review should rely on advanced reporting on implementation success and system performance.

  - The functional unit responsible for implementation should prepare a post-implementation summary of results in advance of the review initiation. The summary should specifically report on the achievement of system objectives and proposed benefits and costs.

  - The study team should review the documentation of the requirements assessment and the post-implementation summary to provide background information and to form the basis for auditing the implementation.

  - The data collection process will depend upon the complexity of the system configuration and the number of system users. Interview guides and questionnaires will be used for ascertaining user satisfaction and determining whether the system meets mandatory user requirements. These tools should be tailored to the specific technology in place and to the stated functional specifications of the system.

  - The information presented in the post-implementation summary should be audited, particularly any statements related to cost savings or time savings. Budget reports, quarterly performance reports, procurements and any other relevant documentation should be reviewed as required to verify reported results.

- Information gathered during the post-implementation evaluation is analyzed to determine the degree of success attained in meeting system objectives and obtaining intended benefits. The study team's evaluation of the implementation should include recommendations for improving operations and should be presented to management and documented in a management report.

- Management of the operations under review should confer with the review team about the study recommendations and develop an action plan for carrying out the study recommendations.

As a result of this evaluation, management may decide to take further action towards improving the office automation system. These actions could involve procedural changes pertaining to system use, acquisition of additional or more enhanced equipment, or implementing the next phase of the system, assuming a partial implementation schedule. The purpose of such actions, in all cases, is to correct existing problems or make an effective system even better.

6-2 Timing of Post-Implementation Evaluations

The timing for performing a post-implementation evaluation is an important factor contributing to valid results. If the evaluation is performed too soon after implementation, meaningful results will not be achieved because of inadequate system break-in time. To realistically determine system effectiveness, the first post-implementation evaluation should normally occur after the system has been fully operational for a significant period of time (usually six months to one year). The audit team considers the following types of factors when determining the length of the period:

- System Size -- Larger systems normally include more numerous staff/machine interfaces than smaller systems. This creates a need for ongoing clarifications of staff duties and equipment capabilities during the initial implementation period.

- System Complexity -- The degree of change associated with key product preparation, work procedures, and the general office environment normally indicates system complexity. Complexity is directly related to the staff learning curves for using the new system.

- Number of System Users -- Because all staff must become familiar with the new equipment and procedures, break-in time is also dependent on the number of system users.

Vendors can often provide assistance in determining appropriate system break-in periods by providing statistics on average learning curves, user capacity, etc. for their specific equipment. This information should not be relied upon exclusively. Other organizations using similar systems may also be of assistance in identifying implementation issues and solutions.

Once the system break-in factors have been considered and evaluated, a schedule for the post-implementation evaluation can be developed.

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